

JONATHAN K. LEVINE (SBN 220289)
jkl@pritzkerlevine.com
ELIZABETH C. PRITZKER (SBN 146267)
ecp@pritzkerlevine.com
SHIHO YAMAMOTO (SBN 264741)
sy@pritzkerlevine.com
PRITZKER LEVINE LLP
180 Grand Avenue, Suite 1390
Oakland, CA 94612
Telephone: (415) 692-0772
Facsimile: (415) 366-6110

DANIEL C. GIRARD (SBN 114826)
dgc@girardgibbs.com
ELIZABETH A. KRAMER (SBN 293129)
eak@girardgibbs.com
ANDRE M. MURA (SBN 298541)
amm@classlawgroup.com
GIRARD GIBBS LLP
601 California Street, Suite 1400
San Francisco, CA 94104
Telephone: (415) 981-4800
Facsimile: (415) 981-4846

STEVEN N. WILLIAMS (SBN 175489)
swilliams@cpmlegal.com
MATTHEW K. EDLING (SBN 250940)
medling@cpmlegal.com
ALEXANDRA P. SUMMER (SBN 266485)
asummer@cpmlegal.com
COTCHETT, PITRE & MCCARTHY, LLP
San Francisco Airport Office Center
840 Malcolm Road, Suite 200
Burlingame, CA 94010
Telephone: (650) 697-6000
Facsimile: (650) 697-0577

Plaintiffs' Interim Co-Lead Counsel

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NORTHERN CALIFORNIA
SAN JOSE DIVISION**

IN RE: LENOVO ADWARE LITIGATION

Case No. 5:15-md-02624-RMW

This Document Relates to All Cases

**PLAINTIFFS' MOTION FOR CLASS
CERTIFICATION**

Date: September 23, 2016
Time: 9:00 a.m.
Judge: Ronald M. Whyte
Courtroom: 6, 4th Floor

REDACTED VERSION OF DOCUMENT
SOUGHT TO BE SEALED

TABLE OF CONTENTS

NOTICE OF MOTION AND MOTION FOR CLASS CERTIFICATION	vi
INTRODUCTION	1
STATEMENT OF COMMON FACTS	2
A. The Lenovo-Superfish Partnership and Development of VisualDiscovery	2
B. VisualDiscovery Spyware Compromised Privacy, Security, and Performance	4
C. Consumers Lacked a Reasonable Opportunity to Avoid the Adverse Effects of the VisualDiscovery Spyware	5
D. Although Complaints of Significant Adverse Effects from VisualDiscovery Began Almost Immediately, Lenovo Continued to Sell the Computers	7
ARGUMENT	8
A. Class-Certification Standards	8
B. The Proposed Class Definitions Are Precise, Objective, and Presently Ascertainable. ..	9
C. Plaintiffs Satisfy All Four Requirements of Rule 23(a)	10
D. Plaintiffs Satisfy the Predominance Requirement of Rule 23(b)(3).	14
CONCLUSION	25

TABLE OF AUTHORITIES

Cases

<i>Abdullah v. U.S. Sec. Assocs.</i> 731 F.3d 952 (9th Cir. 2013).....	14
<i>Ades v. Omni Hotels Mngmnt. Corp.</i> 2014 WL 4627271 (C.D. Cal. Sept. 8, 2014).....	17
<i>Amchem Prods., Inc. v. Windsor</i> 521 U.S. 591 (1997).....	14, 24
<i>Amgen Inc. v. Conn. Ret. Plans & Trust Funds</i> 133 S. Ct. 1184 (2013).....	8
<i>Astiana v. Kashi Co.</i> 291 F.R.D. 493 (C.D. Cal. 2013)	11, 12
<i>Bates v. United Parcel Serv., Inc.</i> 511 F.3d 974 (9th Cir.2007).....	10
<i>Bias v. Wells Fargo & Co.</i> 312 F.R.D. 528 (N.D. Cal. 2015)	9, 15, 25
<i>Biosafe-One, Inc. v. Hawks</i> 639 F. Supp. 2d 358 (S.D.N.Y. 2009).....	17
<i>Bomersheim v. Los Angeles Gay & Lesbian Ctr.</i> 184 Cal.App.4th 1471 (2010).....	20
<i>City of Huntington Park v. Landscape Structures</i> 2015 WL 3948411 (C.D. Cal. June 27, 2015)	10
<i>Comcast Corp. v. Behrend</i> 133 S. Ct. 1426 (2013)	22
<i>Cummings v. Starbucks Corp.</i> 2014 WL 1379119 (C.D. Cal. March 24, 2014)	10
<i>Doe v. Cutter Biological, Inc., a Div. of Miles Labs., Inc.</i> 971 F.2d 375 (9th Cir. 1992).....	20
<i>Dupler v. Costco Wholesale Corp.</i> 249 F.R.D. 29 (E.D.N.Y. 2008)	19
<i>Edwards v. Ford Motor Co.</i> 603 F. App'x 538 (9th Cir. 2015)	18
<i>Ehret v. Uber Techs., Inc.</i> 148 F. Supp.3 d 884 (N.D. Cal. Dec. 2, 2015).....	11, 14, 18
<i>Evon v. Law Offices of Sidney Mickell</i> 688 F.3d 1015 (9th Cir. 2012).....	12

1	<i>Ewert v. eBay, Inc.</i>	
2	2010 WL 4269259 (N.D. Cal. Oct. 25, 2010).....	8
3	<i>Galvan v. KDI Distribution, Inc.</i>	
4	2011 WL 5116585 (C.D. Cal. Oct. 25, 2011).....	15
5	<i>Guido v. L'Oreal, USA, Inc.</i>	
6	2013 WL 3353857 (C.D. Cal. July 1, 2013).....	18, 21
7	<i>Hand Elecs., Inc. v. Snowline Joint Unified Sch. Dist.</i>	
8	21 Cal. App. 4th 862 (1994).....	22
9	<i>Hanlon v. Chrysler Corp.</i>	
10	150 F.3d 1011 (9th Cir. 1998).....	15, 25
11	<i>Harris v. ComScore, Inc.</i>	
12	292 F.R.D. 579 (N.D. Ill. 2013).....	10, 17
13	<i>Holloway v. Full Spectrum Lending</i>	
14	2007 WL 7698843 (C.D. Cal. June 26, 2007)	21
15	<i>Hughey v. Drummond</i>	
16	2015 WL 4395013 (E.D. Cal. July 16, 2015)	17
17	<i>In re ConAgra Foods, Inc.</i>	
18	2015 WL 1062756 (C.D. Cal. Feb. 23, 2015).....	24
19	<i>In re Visa Check/MasterMoney Antitrust Litig.</i>	
20	280 F.3d 124 (2d Cir. 2001).....	15
21	<i>In re Wells Fargo Home Loan Mortg. Overtime Pay Litig.</i>	
22	571 F.3d 953 (9th Cir. 2009).....	15
23	<i>In Re Yahoo Mail Litig.</i>	
24	308 F.R.D. 577 (N.D. Cal. 2015).....	8, 11, 12, 13
25	<i>Intel Corp. v. Hamidi</i>	
26	30 Cal. 4th 1342 (2003)	22
27	<i>Jermyn v. Best Buy Stores, L.P.</i>	
28	256 F.R.D. 418 (S.D.N.Y. 2009)	19
	<i>Johnson v. Scholz</i>	
	276 A.D. 163 (N.Y. App. Div. 1949).....	22
	<i>Krueger v. Wyeth, Inc.</i>	
	310 F.R.D. 468 (S.D. Cal. 2015).....	10
	<i>Kumar v. Salov N. Am. Corp.</i>	
	2016 WL 3844334 (N.D. Cal. July 15, 2016).....	10
	<i>Lane v. Facebook, Inc.</i>	
	696 F.3d 811 (9th Cir. 2012).....	16

1	<i>Leyva v. Medline Indus. Inc.</i>	
2	716 F.3d 510 (9th Cir.2013).....	21, 24
3	<i>Lilly v. Jamba Juice Co.</i>	
4	308 F.R.D. 231 (N.D. Cal. 2014).....	20, 24
5	<i>Maurizio v. Goldsmith</i>	
6	230 F.3d 518 (2d Cir. 2000).....	18
7	<i>Mazur v. eBay Inc.</i>	
8	257 F.R.D. 563 (N.D. Cal. 2009).....	9
9	<i>Mazza v. Am. Honda Motor Co., Inc.</i>	
10	666 F.3d 581 (9th Cir. 2012).....	9, 11, 15
11	<i>Morales v. Kraft Foods Group, Inc.</i>	
12	2015 WL 10786035 (C.D. Cal. June 23, 2015)	10, 24
13	<i>Mullins v. Direct Digital, LLC</i>	
14	795 F.3d 654 (7th Cir. 2015)	
15	<i>cert. denied</i> , 136 S. Ct. 1161 (2016)	15, 16
16	<i>Mullins v. Premier Nutrition Corp.</i>	
17	2016 WL 1535057 (N.D. Cal. Apr. 15, 2016)	18, 25
18	<i>Murray v. GMAC Mortgage Corp.</i>	
19	434 F.3d 948 (7th Cir. 2006).....	21
20	<i>Nieberding v. Barrette Outdoor Living, Inc.</i>	
21	302 F.R.D. 600 (D. Kan. 2014).....	10
22	<i>Petersen v. Costco Wholesale Co., Inc.</i>	
23	312 F.R.D. 565 (C.D. Cal. 2016)	14, 24
24	<i>Pulaski & Middleman, LLC v. Google, Inc.</i>	
25	802 F.3d 979 (9th Cir. 2015).....	18, 21
26	<i>Regalado v. Ecolab Inc.</i>	
27	2016 WL 94139 (S.D.N.Y. Jan. 7, 2016).....	20
28	<i>Reynolds v. Lifewatch, Inc.</i>	
	136 F. Supp. 3d 503 (S.D.N.Y. 2015).....	19
	<i>Rikos v. Procter & Gamble Co.</i>	
	799 F.3d 497 (6th Cir. 2015)	
	<i>cert. denied</i> , 136 S. Ct. 1493 (2016)	10
	<i>Sanchez-Knutson v. Ford Motor Co.</i>	
	310 F.R.D. 538 (S.D. Fl. 2015).....	24
	<i>Sch. of Visual Arts v. Kuprewicz</i>	
	3 Misc. 3d 278 (N.Y. Sup. Ct. 2003)	22

1	<i>Silbaugh v. Viking Mag. Servs.</i>	
2	278 F.R.D. 389 (N.D. Ill. 2012).....	17
3	<i>Spann v. J.C. Penney Corp.</i>	
4	2015 WL 1526559 (C.D. Cal. Mar. 23, 2015).....	21
5	<i>Staton v. Boeing</i>	
6	327 F.3d 938 (9th Cir. 2003).....	12
7	<i>United Steel, Paper & Forestry, Rubber, Mfg. Energy, Allied Indus. & Serv. Workers Int'l Union,</i>	
8	<i>AFL-CIO, CLC v. ConocoPhillips Co.</i>	
9	593 F.3d 802 (9th Cir. 2010).....	9
10	<i>Valentino v. Carter-Wallace, Inc.</i>	
11	97 F.3d 1227 (9th Cir. 1996).....	25
12	<i>Wal-Mart Stores, Inc. v. Dukes</i>	
13	564 U.S. 338 (2011).....	11
14	<i>Wang v. Chinese Daily News, Inc.</i>	
15	737 F.3d 538 (9th Cir. 2013).....	11
16	<i>Wolin v. Jaguar Land Rover N. Am., LLC</i>	
17	617 F.3d 1168 (9th Cir. 2010).....	12
18	<i>Zinser v. Accufix Research Inst., Inc.</i>	
19	253 F.3d 1180 (9th Cir. 2001).....	25
20	Rules	
21	Fed. R. Civ. P. 23.....	passim
22	Statutes	
23	18 U.S.C. § 1030.....	vi, 16, 21
24	18 U.S.C. § 2510.....	16
25	18 U.S.C. § 2512.....	vi, 16
26	18 U.S.C. § 2520.....	21
27	Cal. Bus. & Prof. Code §17200	vi
28	Cal. Bus. & Prof. Code §22947.	vi, 16
	Cal. Civ. Code § 1750.....	vi
	Cal. Penal Code § 502.....	vi, 16, 21
	Cal. Penal Code § 630.....	16
	Cal. Penal Code § 637.2.....	21
	N.Y. General Business Law § 349.....	vi, 18

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

NOTICE OF MOTION AND MOTION FOR CLASS CERTIFICATION

TO ALL PARTIES AND THEIR ATTORNEYS OF RECORD:

PLEASE TAKE NOTICE that at 9:00 a.m., on September 23, 2016, or as soon thereafter as the matter may be heard by the Court, in the courtroom of the Honorable Ronald M. Whyte, 280 South 1st Street, San Jose, CA 95113, Plaintiffs Richard Krause, John Whittle, Rhonda Estrella, Jessica Bennett and Robert Ravencamp (“Plaintiffs”) will and hereby do move under Federal Rule of Civil Procedure 23(b)(3) for an order certifying, as to Defendant Lenovo,¹ twelve causes of action² on behalf of the following Classes:

Direct Purchaser Class (represented by Richard Krause and Robert Ravencamp):

All persons who purchased one or more Lenovo computer models, on which VisualDiscovery was installed, in the United States directly from Lenovo.

Indirect Purchaser Class (represented by Jessica Bennett, Rhonda Estrella and John Whittle):

All persons who purchased one or more Lenovo computer models, on which VisualDiscovery was installed, in the United States from someone other than Lenovo.

California Class (represented by Jessica Bennett and Rhonda Estrella):

All persons who purchased one or more Lenovo computer models, on which VisualDiscovery was installed, in California.

Plaintiffs also seek an order certifying Richard Krause, John Whittle, Rhonda Estrella, Jessica Bennett and Robert Ravencamp as Class Representatives and certifying the law firms of Pritzker Levine LLP, Girard Gibbs LLP and Cotchett, Pitre & McCarthy, LLP as Class Counsel.

¹ All deadlines in the litigation concerning Defendant Superfish are stayed. See Dkt. No. 111. Plaintiffs and Defendant Superfish intend to provide the Court with a schedule for requesting approval of their proposed class settlement, which will include a date certain by which these parties will formally request certification of a settlement class.

² The Computer Fraud and Abuse Act, 18 U.S.C. § 1030, *et seq.*; the Electronic Communications Privacy Act, 18 U.S.C. § 2512 (“ECPA”); California’s Computer Crime Law, Penal Code § 502; California’s Computer Spyware Act, Business & Professions Code §22947, *et seq.*; California’s Unfair Competition Law, Business & Professions Code §17200, *et seq.*; California’s Consumers Legal Remedies Act, Cal. Civ. Code §§ 1750, *et seq.*; New York’s Deceptive Acts and Practices, N.Y. General Business Law § 349; and trespass and negligence claims under California and New York law.

1 This Motion is based on this Notice of Motion and Motion, the Memorandum of Points and
2 Authorities, the Declarations of Elizabeth A. Kramer and Jonathan K. Levine (including as attached
3 thereto, the Declarations of experts Aviel D. Rubin, Bruce McFarlane and Steven P. Gaskin), filed in
4 support of the Motion, the Court's files in this action, the arguments of counsel, and any other matter that
5 the Court may properly consider.³

6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27 ³ Counsels' declarations are referred to herein as the "Kramer Decl." and "Levine Decl." The expert
28 declarations are referred to herein as the "Rubin Decl." the "McFarlane Decl." and the "Gaskin Decl."
The expert declarations are attached as exhibits to the Levine Declaration. "Compl., ¶ __" refers to
Plaintiffs' Consolidated Class Action Complaint (Dkt. No. 96).

INTRODUCTION

This case arises from the wrongful conduct of Defendants Lenovo and Superfish secretly installing malware⁴ called VisualDiscovery on Plaintiffs' laptop computers. Unbeknownst to Plaintiffs, VisualDiscovery operated continuously in the background, analyzing and injecting ads into visited webpages. The malware intercepted both unencrypted and encrypted web traffic, allowing Superfish to obtain the content of Plaintiffs' communications and jeopardize the security of Plaintiffs' private and information. VisualDiscovery negatively impacted the computers' performance in material ways. Consequently, all Class members overpaid for Lenovo laptops installed with VisualDiscovery malware.

Plaintiffs now move to certify three classes: a nationwide class of all consumers who purchased the affected laptops directly from Lenovo (the "Direct Purchaser" class), a nationwide class of all consumers who purchased the affected laptops from someone other than Lenovo (the "Indirect Purchaser Class"), and California consumers who purchased their Lenovo laptops from third-party retailers (the "California Class").

All of the requirements of class certification are satisfied. Hundreds of thousands of consumers purchased the affected laptops (numerosity); Plaintiffs' evidence is capable of answering questions common to all Class members, including whether Lenovo concealed its installation of the VisualDiscovery malware from consumers, and whether the malware allowed third party access to computer users' private communications and otherwise jeopardized their security (commonality); the harm that Plaintiffs have suffered is identical to the harm suffered by all Class members (typicality); and the evidence shows that Plaintiffs and Class counsel will continue to vigorously prosecute this litigation on behalf of the Class, as they have to date (adequacy).

Most importantly, common questions predominate over any individual ones. Defendants engaged in a uniform course of conduct applicable to all Class members, which can be established through common proof: They installed VisualDiscovery onto each Class laptop without telling Class members that they were doing so, and without telling them that VisualDiscovery would expose their personal and

⁴ Malware is software distributed for malicious purposes, such as invading computer systems in the form of viruses, worms, or innocent-seeming plug-ins and extensions that mask other destructive capabilities. Microsoft Comp. Dict. 5th Ed. "Most anti-virus companies have since designated the [VisualDiscovery] program as malware." Rubin Decl., ¶ 3.

confidential information to privacy and security risks. And Defendants likewise did not tell Class members that, with VisualDiscovery operating continuously in the background, their laptops' performance would be negatively impacted. This case turns on what Defendants did or failed to do—conduct that was the same as to all Class members—and thus Defendants' liability should be determined on a classwide basis.

Moreover, as the accompanying expert declarations show, damages can be calculated for each Class member based on reasonable methodologies that tie the relief directly to Plaintiffs' theories of liability. The amount of damages each plaintiff and Class member suffered is too small to justify bringing individual lawsuits. Only through class litigation can hundreds of thousands of similarly situated consumers who purchased the affected Lenovo computers effectively obtain relief.

STATEMENT OF COMMON FACTS

Evidence common to the Class shows that Defendants⁵ pre-installed software known as “VisualDiscovery” on the Lenovo laptop computers purchased by each Plaintiff and Class member, and that this software functioned uniformly and in an unlawful manner. The record confirms that VisualDiscovery surreptitiously intercepted information from consumers' web browsing activities to deliver targeted advertisements, and that VisualDiscovery inhibited the performance of their computers and produced significant security risks. Common evidence further demonstrates Defendants' knowledge of the intrusive nature of VisualDiscovery and their conscious efforts to keep it hidden from the consumers who comprise this Class. Evidence of these facts is shared among Plaintiffs and all Class members, and it will be used to prove the elements of their legal claims.

A. The Lenovo-Superfish Partnership and Development of VisualDiscovery

In June 2014, Lenovo signed an agreement with Superfish that permitted the advertising company to preload up to [REDACTED] with malware called VisualDiscovery. [REDACTED]

⁵ Lenovo is the world's largest computer manufacturer, with headquarters in Beijing, China and Morrisville, North Carolina. Compl. ¶¶ 20-23. Superfish, which created VisualDiscovery and has entered into a settlement agreement here, is a privately-held company with headquarters in Petah Tikva, Israel and Palo Alto, California. Compl. ¶¶ 34-38.

VisualDiscovery created “pop-up” advertisements based on users’ internet activity. Rubin Decl., ¶ 27; Ex. 3 (SF_MDL_008410-27).

⁶ “Ex. __” followed by “LEN-____,” “SF-MDL-____,” or “EVER____” refers to a document produced by Lenovo or Superfish in the litigation that is attached as an exhibit to the Levine Decl.

⁷ Thomas Fox-Brewster, *The Company Behind Lenovo’s Dangerous Superfish Tech Claims It’s Under Attack*, Feb. 20, 2015, Forbes, <http://www.forbes.com/sites/thomasbrewster/2015/02/20/komodina-lenovo-superfish-ddos/> (last visited Sept. 29, 2015); Ryu Connor, *The Rest of the Story: Komodia, Lenovo, and*

After computer security experts discovered that this malware had been installed on certain Lenovo laptops, Lenovo's Chief Technology Officer admitted, "We were told by Superfish that they were using Komodia but we never looked into it," and that Lenovo "did not do a thorough enough job understanding how Superfish would find and provide their info. That's on us. That's a mistake that we made."⁸ But even before it shipped the first computers loaded with VisualDiscovery, Lenovo tested the program and detected numerous problems affecting security and performance. *E.g.*, Ex. 10 (SF_MDL_010566); Ex. 11 (EVER850031). Among other things, Lenovo's testing revealed that VisualDiscovery "abused SSL connections" by accessing encrypted internet websites⁹ and increased CPU usage and power consumption—compromising the laptops' security, performance, and battery life. Rubin Decl., ¶¶ 49-81; Ex. 10 (SF_MDL_010566); Ex. 11 (EVER850031); Ex. 12 (LEN-0062243); Ex. 13 (LEN-0055499).

B. VisualDiscovery Spyware Compromised Privacy, Security, and Performance

From August 2014 to February 2015, Lenovo manufactured and sold 797,159 laptop computers in the United States. All ran on the Windows 8 operating system, and all were pre-installed with VisualDiscovery software. Ex. 14 (LEN-0114815).¹⁰ Lenovo marketed these computers only to consumers, not to businesses. Compl. ¶ 84; Ex. 15 (LEN-0018418).

VisualDiscovery operated from when the user first booted up the computer until it was shut down, for every session of computer use. The manner in which VisualDiscovery functioned was identical, regardless of what the consumer was doing on the computer. Rubin Decl., ¶ 29. Common evidence

Superfish, Feb. 23, 2015, TechReport.com, <http://techreport.com/news/27849/the-rest-of-the-story-komodina-lenovo-and-superfish> (last visited Sept. 29, 2015).

⁸ Nicole Perlroth, *Lenovo's Chief Technology Officer Discusses the Superfish Adware Fiasco*, Feb. 24, 2015, NY Times, http://bits.blogs.nytimes.com/2015/02/24/lenovos-chief-technology-officer-discusses-the-superfish-adware-fiasco/?_r=0 (last visited Oct. 2, 2015); *see also* LEN-0048302.

⁹ Simon Phipps, *Lenovo: "We Were as Surprised as You"*, Feb. 20, 2015, InfoWorld, <http://www.infoworld.com/article/2886959/laptop-computers-are-you-buying-risk-along-with-your-laptop.html> (last visited Sept. 29, 2015).

¹⁰ LEN-0114815 is a spreadsheet listing total sales of the affected laptops by month, by customer and by model. This spreadsheet identifies all of the consumers who purchased directly from Lenovo and well as all of Lenovo's resellers, such as Best Buy. *See also* Lenovo Responses to Plaintiffs' First Set of Interrogatories, Response No. 3 (citing to and discussing information from spreadsheet). Due to its length, only an excerpt of this document has been submitted as Exhibit 14 to the Levine Decl.

corroborates the allegations of the Complaint that this spyware monitored users' web traffic and intercepted and redirected the content of communications during internet sessions. Plaintiffs submit the declaration of computer expert Dr. Aviel D. Rubin, who details how VisualDiscovery obtained communications transmitted through web browsers including browsing history, search terms, "cookies," and a range of personal information in a clandestine manner. Rubin Decl., ¶¶ 27-48, 72-74.

Dr. Rubin concludes that (i) VisualDiscovery compromised the privacy and security of all the subject computers, including by intercepting data provided over the internet and undermining the integrity of a user's internet connection, (ii) the installation and operation of VisualDiscovery materially impaired computer performance, (iii) he would have recommended against buying a Lenovo computer on which VisualDiscovery was installed, and (iv) the privacy, security, and performance deficiencies resulting from VisualDiscovery likely would have been made a difference to consumers' purchasing decisions. Rubin Decl., ¶¶ 22-25.

C. Consumers Lacked a Reasonable Opportunity to Avoid the Adverse Effects of the VisualDiscovery Spyware

The record demonstrates Defendants' conscious effort to conceal the VisualDiscovery technology from individuals whose data Defendants exploited without their consent. *See, e.g.*, Ex. 4 (LEN-0043675); Ex. 16 (LEN-0034956). Throughout the Class period, the technology was never disclosed to consumers, and they lacked any meaningful ability to remove it from their computers. Ex. 17 (LEN-0006825); Ex. 18 (SF_MDL_012018); Ex. 19 (SF_MDL_000150); Ex. 20 (SF_MDL_000106).

Lenovo neither listed VisualDiscovery as one of the pre-installed computer programs nor referenced VisualDiscovery or Superfish on its website. Ex. 21 (LEN-0095471); Ex. 16 (LEN-0034956). VisualDiscovery was embedded deep within the computer operating system, did not appear as a screen icon or in any computer menu, and was omitted from the start screen's list of programs installed on the computer. Rubin Decl., ¶ 29. Only when the computer user first visited the internet was VisualDiscovery mentioned, and even then it was described in misleading, if not false, terms:



This one-time pop-up window portrayed the program as allowing consumers to “[e]xplore shopping” and “discover visually similar products and best prices while you shop.” Ex. 22 (SF_MDL_000036). It did not, however, disclose the intrusive nature of the program, Superfish’s involvement, or that the program was designed to intercept and save encrypted data for marketing purposes. Ex. 23 (LEN-0094734). In smaller print, sandwiched above and to the right of retailer brand images, the window stated: “To opt-out click here[.]” Ex. 22 (SF_MDL_000036). If the individual simply closed the pop-up window or clicked anywhere on the screen outside of the window, the user was deemed to have accepted VisualDiscovery. Ex. 24 (EVER836986). Even those who managed to click on the teeny-tiny opt-out link only managed to avoid receiving Superfish’s advertisements.

1 Lenovo and Superfish had previously contemplated VisualDiscovery as an opt-in program,
2 meaning consumers would need to affirmatively consent to its operation on their computers. Ex. 26 (LEN-
3 0043777). An earlier, proposed pop-up window, for example, identified Superfish by name and required
4 the consumer to opt in to the VisualDiscovery program. Ex. 27 (SF_MDL_000669). But Defendants
5 substituted the above-described opt-out window before selling the affected computers. Lenovo executives
6 acknowledged internally that the opt-out process was not “clear to most users” and could be improved.
7 Ex. 28 (LEN-0050126); Ex. 29 (LEN-0021130-31). [REDACTED]

8 [REDACTED]
9 **D. Although Complaints of Significant Adverse Effects from VisualDiscovery Began**
10 **Almost Immediately, Lenovo Continued to Sell the Computers**

11 Lenovo began receiving complaints connected to VisualDiscovery in September 2014. *E.g.*, Ex.
12 31 (EVER120043) (bank manager complaining of interception of secure communications). [REDACTED]

13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 But even then, Lenovo did not stop installing VisualDiscovery on its laptops or notify affected
20 consumers. Instead, it asked Superfish only to stop intercepting certain communications with encrypted
21 websites and to develop a new version of the program that would not intercept that data. Ex. 31
22 (EVER120043). In response, Superfish turned off the HTTPS engine on the server side so that Superfish’s
23 servers would no longer respond to a search request coming from an encrypted HTTPS website. Although
24 Plaintiffs’ investigation is ongoing, there is evidence that the underlying privacy, security, and
25 performance problems persisted, in part because the Komodia software was still running on each user’s
26 individual laptop. Rubin Decl., ¶ 36. Towards the end of November 2014, Lenovo began installing a
27 different version of VisualDiscovery on its computers. Ex. 34 (LEN-0095948). This version too qualified
28 as malware. Rubin Decl., ¶ 34.

1 Complaints from consumers and Lenovo executives kept increasing. On January 18, 2015, Lenovo
 2 instructed Superfish to turn off the VisualDiscovery program at the server level. Ex. 35 (EVER117178).
 3 Even then, however, VisualDiscovery was still operating at computers' operating-system level, and was
 4 still injecting code whenever users accessed the internet. The only way to turn off the program entirely
 5 was to uninstall it. Ex. 36 (EVER117374). [REDACTED]

6 [REDACTED]
 7 On February 19, 2015, the *New York Times* and other publications reported on the troubling
 8 privacy, security, and performance problems associated with VisualDiscovery and the Lenovo-Superfish
 9 collaboration. Compl. ¶¶ 102-03. Within a few days, Lenovo terminated its relationship with Superfish,
 10 and the United States government designated "Lenovo consumer PCs that have Superfish
 11 VisualDiscovery installed" a serious security threat.¹¹ Lenovo, in turn, called the software a high severity
 12 security concern and finally recommended that it be removed immediately.¹²

13 ARGUMENT

14 A. Class-Certification Standards.

15 "Class certification is a matter within the discretion of the district court" provided the
 16 determination is "supported by sufficient factual findings" and "a proper understanding of the applicable
 17 law." *Ewert v. eBay, Inc.*, Nos. C-07-02198 RMW, C-07-04487 RMW, 2010 WL 4269259, at *2 (N.D.
 18 Cal. Oct. 25, 2010) (citations omitted). Although the court must conduct a "rigorous" analysis, Rule 23
 19 does not authorize "free-ranging merits inquiries at the certification stage." *In Re Yahoo Mail Litig.*, 308
 20 F.R.D. 577, 586 (N.D. Cal. 2015) (quoting *Amgen Inc. v. Conn. Ret. Plans & Trust Funds*, __ U.S. __,
 21 133 S. Ct. 1184, 1194-95 (2013)). "Merits questions may be considered to the extent—but only to the
 22 extent—that they are relevant to determining whether the Rule 23 prerequisites for class certification are
 23 satisfied." *Amgen*, 133 S. Ct. at 1195.

24
 25
 26 ¹¹ Alert (TA15-051A), *Lenovo Superfish Adware Vulnerable to HTTPS Spoofing*, Feb. 20, 2015, U.S.
 27 Computer Emergency Readiness Team, <https://www.us-cert.gov/ncas/alerts/TA15-051A> (Homeland
 Security) (last visited Feb. 24, 2015).

28 ¹² Lenovo Security Advisory: LEN-2015-10, *Superfish Vulnerability*, LENOVO,
https://support.lenovo.com/us/en/product_security/superfish (last visited Aug. 26, 2015).

1 Plaintiffs, the proponents of class certification, bear the burden of establishing all four
 2 requirements of Rule 23(a), and at least one of the requirements of Rule 23(b). *See United Steel, Paper*
 3 *& Forestry, Rubber, Mfg. Energy, Allied Indus. & Serv. Workers Int'l Union, AFL-CIO, CLC v.*
 4 *ConocoPhillips Co.*, 593 F.3d 802, 807 (9th Cir. 2010). Rule 23(a) requires that: “(1) the class is so
 5 numerous that joinder of all members is impracticable; (2) there are questions of law or fact common to
 6 the class; (3) the claims or defenses of the representative parties are typical of the claims or defenses of
 7 the class; and (4) the representative parties will fairly and adequately protect the interests of the class.”
 8 Fed. R. Civ. P. 23(a); *Mazza v. Am. Honda Motor Co., Inc.*, 666 F.3d 581, 588 (9th Cir. 2012). And,
 9 relevant here, Rule 23(b)(3) requires Plaintiffs to show “that the questions of law or fact common to class
 10 members predominate over any questions affecting only individual members, and that a class action is
 11 superior to other available methods for fairly and efficiently adjudicating the controversy.” Fed. R. Civ.
 12 P. 23(b)(3).

13 **B. The Proposed Class Definitions Are Precise, Objective, and Presently Ascertainable.**

14 “As a threshold matter, and apart from the explicit requirements of Rule 23(a), the party seeking
 15 class certification must demonstrate that an identifiable and ascertainable class exists.” *Mazur v. eBay*
 16 *Inc.*, 257 F.R.D. 563, 567 (N.D. Cal. 2009). Here, the class definitions are based on a set of objective
 17 criteria—the purchase of Lenovo computers with VisualDiscovery pre-installed directly from Lenovo or
 18 indirectly from another seller in the United States or a particular State (California).

19 Also, here “it is administratively feasible to determine whether a particular person is a class
 20 member and thus bound by the judgment.” *Id.* Members of the Direct Purchaser Class can be identified
 21 through Lenovo’s own records showing to whom it sold computers containing the VisualDiscovery
 22 malware. When class membership can be determined through a defendant’s own records, the
 23 ascertainability requirement is satisfied. *Bias v. Wells Fargo & Co.*, 312 F.R.D. 528 (N.D. Cal. 2015).
 24 Any review of defendant’s records should not be laborious here; even so, class certification would not be
 25 defeated were that “process [to] require additional, even *substantial*, review of files.” *Rikos v. Procter &*
 26 *Gamble Co.*, 799 F.3d 497, 525 (6th Cir. 2015), *cert. denied*, 136 S. Ct. 1493 (2016) (citation omitted;
 27 emphasis supplied by *Rikos*); *Cummings v. Starbucks Corp.*, No. 12-06345, 2014 WL 1379119, at *16
 28

(C.D. Cal. March 24, 2014) (finding the proposed class ascertainable despite the defendant's objection that it would be "laborious" to review individual personnel files).

Likewise, members of the Indirect Purchaser Class and California Class can be ascertained through Lenovo's records to the extent that consumers registered their purchases with Lenovo or had their computers repaired by Lenovo. LEN-0114815; *See e.g., City of Huntington Park v. Landscape Structures*, No. 14-00419, 2015 WL 3948411, *4 (C.D. Cal. June 27, 2015) (explaining that the class was ascertainable in part because class members could be identified through "repair orders"). Moreover, if Lenovo's records are inadequate to identify all Indirect Purchaser Class members, it would be appropriate to permit them to self-identify through affidavits or claim forms. *See e.g., Krueger v. Wyeth, Inc.*, 310 F.R.D. 468, 475 (S.D. Cal. 2015) ("Under the law of [the Ninth Circuit], it is enough that the class definition describes a set of common characteristics sufficient to allow an individual to determine whether she is a class member with a potential right to recover.") (internal quotation marks and citation omitted); *Kumar v. Salov N. Am. Corp.*, No. 14-CV-2411, 2016 WL 3844334, *7 (N.D. Cal. July 15, 2016); *Morales v. Kraft Foods Group, Inc.*, No. 14-04387, 2015 WL 10786035, at *12-13 (C.D. Cal. June 23, 2015); *Harris v. ComScore, Inc.*, 292 F.R.D. 579, 587 (N.D. Ill. 2013). Consumers can readily determine whether they purchased one of the offending Lenovo models by matching their computer serial number to a list which corresponds with the date of production and would confirm that VisualDiscovery was pre-installed. And they may confirm their purchase through an appropriately constructed affidavit or claim form that attaches proof of purchase, such as a receipt or bank account or credit-card statement. *See e.g., Nieberding v. Barrette Outdoor Living, Inc.*, 302 F.R.D. 600, 607 (D. Kan. 2014).

For all of these reasons, the proposed Class definitions are based on objective criteria and the classes are sufficiently ascertainable.¹³

C. Plaintiffs Satisfy All Four Requirements of Rule 23(a).

1. Numerosity.

Under Rule 23(a)(1), a proposed class must be "so numerous that joinder of all members is impracticable." Fed. R. Civ. P. 23(a)(1). Plaintiffs need not set forth a precise number of class members

¹³ Another threshold matter: "In a class action, standing is satisfied if at least one named plaintiff meets the requirements" of Article III. *Bates v. United Parcel Serv., Inc.*, 511 F.3d 974, 985 (9th Cir.2007) (en banc). Plaintiffs addressed their standing to sue in their brief in opposition to Lenovo's motion to dismiss.

1 to satisfy this element and the Court may draw reasonable inferences from the facts before it. *In Re Yahoo*
 2 *Mail Litig.*, 308 F.R.D. at 589-90 (N.D. Cal. 2015). There is “no fixed number that satisfies the
 3 numerosity requirement,” [but] “as a general matter, a class greater than forty often satisfies the
 4 requirement” *Ehret v. Uber Techs., Inc.*, Case No. 14-cv-00113, 148 F. Supp.3d 884, 890 (N.D.
 5 Cal. Dec. 2, 2015) (internal quotation marks and citation omitted).

6 Here, each proposed Class consists of thousands of members. Between September 2014 and
 7 February 2015, direct sales of Lenovo laptops with VisualDiscovery pre-installed and third-party sales
 8 of the same to consumers in each of the defined classes numbered in the thousands, if not tens of
 9 thousands. With each proposed class consisting of thousands (and possibly tens of thousands) of
 10 consumers, each is so numerous that joinder of all members is impracticable.

11 2. Commonality.

12 Rule 23(a)(2) requires “questions of law or fact common to the class.” Accordingly, Plaintiffs’
 13 claims “must depend upon a common contention” such that “determination of [their] truth or falsity will
 14 resolve an issue that is central to the validity of each one of the claims in one stroke.” *Wal-Mart Stores,*
 15 *Inc. v. Dukes*, 564 U.S. 338 (2011). “What matters to class certification . . . is not the raising of common
 16 ‘questions’—even in droves—but, rather the capacity of a classwide proceeding to generate common
 17 answers apt to drive the resolution of the litigation.” *Id.* (internal citation omitted).

18 This burden is a “limited” one. *Mazza*, 666 F.3d at 585. Plaintiffs need not show that “every
 19 question in the case, or even a preponderance of questions, is capable of class wide resolution. So long
 20 as there is ‘even a single common question,’ a would-be class can satisfy the commonality requirement
 21 of Rule 23(a)(2).” *Wang v. Chinese Daily News, Inc.*, 737 F.3d 538, 544 (9th Cir. 2013) (quoting *Dukes*,
 22 564 U.S. at 359). Moreover, “[v]ariation among class members in their motivation for purchasing the
 23 product, the factual circumstances behind their purchase, or the price that they paid does not defeat the
 24 relatively ‘minimal’ showing required to establish commonality.” *Astiana v. Kashi Co.*, 291 F.R.D. 493,
 25 502 (C.D. Cal. 2013).

26 Here, commonality exists because the “circumstances of each particular class member . . . retain
 27 a common core of factual or legal issues with the rest of the class[.]” *Evon v. Law Offices of Sidney*
 28 *Mickell*, 688 F.3d 1015, 1029 (9th Cir. 2012) (citations and quotations omitted). Further, as discussed

below, common questions predominate over individual issues. *Wolin v. Jaguar Land Rover N. Am., LLC*, 617 F.3d 1168, 1172 (9th Cir. 2010) (recognizing “substantial overlap” between these two inquiries, though predominance is “far more demanding”) (citation omitted). But here, it suffices that Plaintiffs’ claims, at their core, concern whether Defendants pre-installed the VisualDiscovery malware on Lenovo’s computers without adequately disclosing that they had done so, and without disclosing *at all* that VisualDiscovery would put the security and privacy of Plaintiffs’ and the Class’ data and communications at risk or materially impede their computers’ operating performance. These contentions raise disputed questions of fact the resolution of which will advance the determination of Plaintiffs’ claims. Given these many common questions, Plaintiffs have easily met their “minimal” burden to show a significant issue common to the class is amenable to classwide resolution. *Astiana*, 291 F.R.D. at 502.

3. *Typicality.*

Typicality exists if the plaintiffs’ claims are “reasonably coextensive” with those of absent class members. *Staton v. Boeing*, 327 F.3d 938, 957 (9th Cir. 2003). To be typical, the class representative must be part of the class, possess the same interest, and must “have been injured by the same course of conduct. *Wolin*, 617 F.3d at 1175. Typicality is a permissive requirement that entails showing “only that the representative’s claims are reasonably co-extensive with those of the absent class members; they need not be substantially identical.” *In Re Yahoo Mail Litig.*, 308 F.R.D. at 593.

Plaintiffs are typical of the Classes they seek to represent because they have similar injuries and have been harmed by the same course of conduct as the Classes—Defendants’ accessed the Plaintiffs’ and Class members’ computers without authorization and failed to disclose material information concerning VisualDiscovery to them.¹⁴ The Plaintiffs like *all* the putative Class members overpaid for computers pre-installed with malware. What is more, as the predominance discussion below demonstrates, the Plaintiffs’ legal and remedial theories are the same as the legal and remedial theories of those they seek to represent, and there are no defenses unique to the Plaintiffs which would make class certification inappropriate. For these reasons, Plaintiffs claims are typical of the class.

¹⁴ That Plaintiffs and Class members’ injuries may have manifested at different times does not defeat typicality. *Wolin*, 617 F.3d at 1175 (“Typicality can be satisfied despite different factual circumstances surrounding the manifestation of the defect.”).

4. *Adequacy.*

The adequacy requirement is two inquiries: “(1) do the named plaintiffs and their counsel have any conflicts of interest with other class members; and (2) will the named plaintiffs and their counsel prosecute the action vigorously on behalf of the class?” *In re Yahoo Mail Litig.*, 308 F.R.D. at 595.

There are no conflicts among or between Plaintiffs and the proposed Classes. Plaintiffs have been harmed in the same ways as Class members—they were hoodwinked into buying computers pre-installed with malware. The common injury suffered by Plaintiffs and the Class means that Plaintiffs have every incentive to vigorously pursue the monetary and equitable relief that they all deserve.

Each of the Plaintiffs¹⁵ has made important contributions to the prosecution of this action, including, but not limited to, communicating with class counsel, participating in the drafting of the consolidated class complaint, assisting with drafting responses to written discovery, and providing deposition testimony in this matter.¹⁶ Each of the Plaintiffs understands and has agreed to undertake the responsibilities of being a class representative, and each has testified that he or she will continue to act in the best interests of the class.¹⁷

Finally, Plaintiffs’ counsel are highly experienced complex-litigation attorneys who have favorably resolved numerous class actions to the benefit of consumers. Their track record in obtaining multi-million-dollar judgments in favor of aggrieved consumers shows that they possess the necessary skill and expertise to ably prosecute this action. *See Petersen v. Costco Wholesale Co., Inc.*, 312 F.R.D. 565, 578 (C.D. Cal. 2016) (“To be adequate, plaintiffs’ counsel must be qualified, experienced, and generally able to conduct the proposed litigation.”). Moreover, Plaintiffs’ counsel have spent numerous

¹⁵ Plaintiff Estrella’s deposition is scheduled for July 27 and thus she has not yet provided live testimony. Plaintiff Estrella’s interrogatory responses and responses to an informal discovery questionnaire from Lenovo show that she meets the typicality and adequacy requirements to serve as a class representative. *See Levine Decl.*, Ex. 38 at 5, 6, 8, 13 (Plaintiffs’ Consolidated Responses to Lenovo’s First Set of Interrogatories (Estrella)); Ex. 39 (Estrella Core Discovery Questionnaire).

¹⁶ *Levine Decl.*, Ex. 40, at 10:15 – 11:14, 166:8-23, 168:9-17, 169:21-23, 172:20 – 173:12, 191:4-23 (Ravencamp Dep. Tr.); Ex. 41, at 8:22 – 10:4, 80:24 – 81:6, 84:7-18, 86:2-18, 87:13 – 88:18 (Krause Dep. Tr.); Ex. 42 at 11:11-18, 80:24 – 81:14, 82:10 – 83:7, 84:8-25, 90:16-22 (Bennett Dep. Tr.); Ex. 43 at 7:12 – 8:1, 152:22 – 153:4, 153:20 – 154:7, 156:5-18, 158:23 – 159:9 (Whittle Dep. Tr.).

¹⁷ *Levine Decl.*, Ex. 40, at 203:18 – 204:17, 205:6-14, 208:14-25 (Ravencamp Dep. Tr.); Ex. 41, at 90:13-19, 91:1-21 (Krause Dep. Tr.); Ex. 42 at 88:2-11, 90:23 – 91:4 (Bennett Dep. Tr.); Ex. 43 at 154:10-18, 160:12-16, 163:13-15 (Whittle Dep. Tr.).

hours investigating the facts and legal claims in this case, as is evident from the detailed nature of the consolidated complaint and the briefing on the motion to dismiss. Kramer Decl., ¶¶ 3-12 and Exs. A-C.

D. Plaintiffs Satisfy the Predominance Requirement of Rule 23(b)(3).

Rule 23(b)(3) contains two components. Plaintiffs must establish that “the questions of law or fact common to class members predominate over any questions affecting only individual members.” Fed. R. Civ. P. 23(b)(3). Plaintiffs must also show that “a class action is superior to other available methods for fairly and efficiently adjudicating the controversy.” *Id.* “[T]he predominance analysis under Rule 23(b)(3) focuses on the relationship between the common and individual issues in the case, and tests whether the proposed class is sufficiently cohesive to warrant adjudication by representation.” *Ehret v. Uber Techs., Inc.*, 148 F. Supp. 3d 884, 894-95 (N.D. Cal. 2015) (quoting *Abdullah v. U.S. Sec. Assocs.*, 731 F.3d 952, 964 (9th Cir. 2013)).

As described below, the overarching common questions concerning whether Defendants knowingly and without Plaintiffs’ consent accessed their computers and intercepted their internet traffic, and whether Defendants’ failure to disclose was likely to deceive a reasonable consumer, predominate over any issues affecting individual Class members. In addition, given the relatively small dollar value of each Class member’s claim, the only way to effectively vindicate Class members’ rights is through classwide adjudication.

1. Common Issues Concerning Defendants’ Conduct Predominate Over Any Individual Issues.

The predominance inquiry—whether “questions of law or fact common to class members predominate,” Fed. R. Civ. P. 23(b)(3)—“tests whether proposed classes are sufficiently cohesive to warrant adjudication by representation.” *Amchem Prods., Inc. v. Windsor*, 521 U.S. 591, 623 (1997). The essential question is whether “adjudication of common issues will help achieve judicial economy.” *In re Wells Fargo Home Loan Mortg. Overtime Pay Litig.*, 571 F.3d 953, 958 (9th Cir. 2009) (citations and quotations omitted). If “common questions present a significant aspect of the case and they can be resolved for all members of the class in a single adjudication” then “there is clear justification for handling the dispute on a representative rather than an individual basis.” *Mazza*, 666 F.3d at 589 (quoting *Hanlon v. Chrysler Corp.*, 150 F.3d 1011, 1022 (9th Cir. 1998)).

Here, there is clear justification for class adjudication because the substantive issues raised by Plaintiffs, and the evidence relevant to each of those issues, demonstrates that common issues predominate. *See Galvan v. KDI Distribution, Inc.*, No. 08-0999, 2011 WL 5116585, at *8 (C.D. Cal. Oct. 25, 2011). Indeed, this suit is particularly amenable to class certification because the elements of Plaintiffs' claims focus on Defendants' conduct. *See Bias*, 312 F.R.D. at 541.

Plaintiffs have asserted twelve separate causes of action against Lenovo. For ease of analysis, Plaintiffs' discussion will group the federal and state statutory "unlawful access" claims (i.e., the claims for violation of the CFAA, the ECPA, the California Computer Crime Law, the California Computer Spyware Act, and CIPA) and the California and New York trespass claims together; the state statutory consumer-protection claims together (i.e., the UCL, CLRA, and NYDAP); and the California and New York negligence claims together.¹⁸ Because these claims may be fairly grouped in this way—thereby posing only three sets of overlapping questions common to the class—there is no manageability concern presented by the number of claims sought to be certified.¹⁹

(a) *The Statutory Unlawful Access Claims and Common-Law Trespass Claims Are Amendable to Common Proof.*

Plaintiffs assert six claims based on federal and state electronic-privacy statutes, including violations of (1) the Computer Fraud and Abuse Act, 18 U.S.C. § 1030 *et seq.*; (2) the Electronic Communications Privacy Act, 18 U.S.C. § 2512 ("ECPA"); (3) the Wiretap Act, 18 U.S.C. § 2510 *et seq.*; (4) California's Computer Crime Law, Penal Code § 502; (5) California's Computer Spyware Act, Business & Professions Code § 22947 *et seq.*; and (6) California's Invasion of Privacy Act, Penal Code

¹⁸ This certification motion does not require a complex choice-of-law analysis. The parties have stipulated that the litigation shall proceed initially on the basis of federal, New York, and California law only, with claims potentially arising under other states or territories' laws to be tolled during the pendency of this litigation until an order of this Court directs otherwise. (Stip. and Case Management Order No. 2, dated Nov. 10, 2015)

¹⁹ Still, "the well-settled presumption [is] that courts should not refuse to certify a class merely on the basis of manageability concerns." *Mullins v. Direct Digital, LLC*, 795 F.3d 654, 663 (7th Cir. 2015), cert. denied, 136 S. Ct. 1161 (2016) (citing *In re Visa Check/MasterMoney Antitrust Litig.*, 280 F.3d 124, 140 (2d Cir. 2001) (Sotomayor, J.)).

§ 630 *et seq.* (“CIPA”). These claims are based on the same theory, namely, that Superfish used VisualDiscovery to surreptitiously access Plaintiffs’ computers and their online communications, and that Lenovo conspired with, and aided and abetted, Superfish in this unlawful undertaking.²⁰ Plaintiffs allege that Defendants engaged in the identical conduct toward each putative Class member, and thus Plaintiffs can, and will, establish their right to recover under each claim using proof common to the Class. Though discovery is ongoing, Plaintiffs already have substantial common proof of the following:

- Defendants entered into an agreement to install VisualDiscovery on each putative Class member’s computer, and to do so in such a way as to make it virtually impossible to detect what VisualDiscovery was doing. LEN-0094793; LEN-0043675.
- To the extent Defendants notified Class members about VisualDiscovery at all, they did so only through a uniform pop-up. That pop-up ensured that VisualDiscovery would be activated unless Class members *affirmatively opted out* (which the pop-up gave them no reason to do), and the pop-up failed to disclose how VisualDiscovery worked, or that it would place Class members private information at risk and impair the functioning of their computers.²¹ SF_MDL_000036; LEN-0094734.

²⁰ The common thread running through all the statutory unlawful-access claims is that through their agreement to preinstall VisualDiscovery on each Class computer, Defendants infiltrated those computers, and intercepted and read Class members’ data and communications, all without telling Class members they were doing so. *See Lane v. Facebook, Inc.*, 696 F.3d 811, 817 n.1, 823 (9th Cir. 2012) (describing the ECPA, the Computer Fraud and Abuse Act, the CLRA, and California’s Computer Crime Law as “similar privacy statutes,” and deeming the plaintiffs’ claims under them as “involving the same basic legal theories and factual issues”). The elements of Plaintiffs’ statutory unlawful-access claims against Lenovo are set forth in the Complaint and their opposition to motion to dismiss. *E.g.*, CFAA (Compl., ¶¶ 138-159, ECF 105-3 (Opposition to Lenovo’s Motion to Dismiss) at 15-16; ECPA (Compl., ¶¶ 160-165, ECF 105-3 at 15); California’s Computer Crime Law (Compl., ¶¶ 200-211, ECF 105-3 at 18); California’s Computer Spyware Act (Compl., ¶¶ 212-227, ECF 105-3 at 18); CIPA (Compl., ¶¶ 228-234, ECF 105-3 at 18).

²¹ As Plaintiffs explained in their opposition to Lenovo’s motion to dismiss, the contents of their communications were obtained without authorization or exceeded authorization. There is no evidence that Plaintiffs consented to the operation of VisualDiscovery, and therefore no basis for Lenovo “to realistically argue that individual issues regarding consent outweigh the commonality.” *Silbaugh v. Viking Mag. Servs.*, 278 F.R.D. 389, 393 (N.D. Ill. 2012).

- 1 ▪ VisualDiscovery worked the same way on each Class member's computer. It interrupted Class
- 2 members encrypted connections with websites, decrypted and read the data being exchanged,
- 3 then re-encrypted it and forwarded it to the website. LEN-0048830.
- 4 ▪ Finally, it was not reasonably possible to disable or remove VisualDiscovery from computers
- 5 through anti-virus software.²² See LEN-0035638 (Feng Lee responds to concerns from Best Buy
- 6 by saying that no antivirus software is flagging VisualDiscovery).

7 The common theory underlying all of these electronic-privacy claims is Defendants' uniform scheme to
 8 unlawfully access Class members' computers and their internet traffic without authorization. The
 9 common evidence upon which Plaintiffs' and Class members' claims rise and fall, as summarized above,
 10 warrant class certification. See e.g., *Harris v. ComScore, Inc.*, 292 F.R.D. 579 (N.D. Ill. 2013) (certifying
 11 ECPA claims); *Ades v. Omni Hotels Mngmnt. Corp.*, No. 13-CV-02468, 2014 WL 4627271 (C.D. Cal.
 12 Sept. 8, 2014) (certifying a CIPA class).

13 Plaintiffs also assert trespass claims under California and New York law. The elements of trespass
 14 under California and New York law are virtually identical, requiring a plaintiff to plead that defendants
 15 have injured them by intentionally interfering with the possession of their personal property. See, e.g.,
 16 *Hughey v. Drummond*, No. 2:14-CV-00037-TLN, 2015 WL 4395013, at *16 (E.D. Cal. July 16, 2015)
 17 (California law); *Biosafe-One, Inc. v. Hawks*, 639 F. Supp. 2d 358, 368-69 (S.D.N.Y. 2009) (New York
 18 law). The trespass claims are amenable to common proof for the same reason the statutory unlawful-
 19 access claims are: Plaintiffs' theory is that by installing VisualDiscovery on their computers, Defendants
 20 wrongfully interfered with Plaintiffs' and Class members' use of those computers, causing them harm in
 21 the form of diminished operating performance and exposure to privacy and security breaches. These
 22 claims, then, depend entirely on what Defendants did to interfere with the affected computers through
 23 VisualDiscovery and whether, that act constitutes cognizable interference under trespass law. Neither of
 24 these common issues varies from class member to class member.

25 (b) *The Consumer-Protection Claims Are Also Amendable to Common Proof.*

27 ²² Nicole Perlroth, *Lenovo and Superfish Penetrate the Heart of a Computer's Security*, Feb. 22, 2015, NY
 28 Times, <http://bits.blogs.nytimes.com/2015/02/22/lenovo-and-superfish-penetrate-the-heart-of-a-computers-security/> (last visited Aug. 26, 2015).

1 Plaintiffs' claims under California's Unfair Competition Law and Consumers Legal Remedies
 2 Act, and New York's Deceptive Acts and Practices statute also depend on whether Lenovo failed to
 3 disclose material information concerning VisualDiscovery that would have been important to an average
 4 consumer in deciding whether to buy a Lenovo computer. This too can, and will, be proven through
 5 common evidence.

6 To prevail on their UCL claim, Plaintiffs do not have to prove individualized deception, reliance,
 7 and injury. *Ehret*, 148 F. Supp. 3d at 895. Rather, Plaintiffs are only required to show that members of
 8 the public are likely to be deceived by Defendants' conduct. *Pulaski & Middleman, LLC v. Google, Inc.*,
 9 802 F.3d 979, 985 (9th Cir. 2015). Likewise, to prevail on their CLRA claim, Plaintiffs need to show that
 10 Defendants' omissions concerning VisualDiscovery were material. *Ehret*, 148 F. Supp. 3d at 901-02. It
 11 is well established that materiality is judged by an objective, reasonable person standard, so "whether an
 12 omission is material presents a common question of fact suitable for class litigation." *Guido v. L'Oreal*,
 13 *USA, Inc.*, No. 11-1067, 2013 WL 3353857, at *11 (C.D. Cal. July 1, 2013); *Edwards v. Ford Motor Co.*,
 14 603 F. App'x 538, 541 (9th Cir. 2015) (stating that "materiality is governed by an objective 'reasonable
 15 person' standard under California law, an inquiry that is the same for every class member..."); *Mullins*
 16 *v. Premier Nutrition Corp.*, No. 13-CV-01271-RS, 2016 WL 1535057 (N.D. Cal. Apr. 15, 2016) (If
 17 plaintiff "can prove materiality on a classwide basis, she can also demonstrate classwide reliance.").

18 New York's Deceptive Acts and Practices law, N.Y. General Business Law § 349 ("Section 349")
 19 is virtually identical to California's consumer-protection statutes.²³ Like the UCL and CLRA, a Section
 20 349 plaintiff is not required to prove individual reliance, but only an objective misrepresentation or
 21 omission that caused injury. *See Reynolds v. Lifewatch, Inc.*, 136 F. Supp. 3d 503, 521 (S.D.N.Y. 2015);
 22 *see also Jermyn v. Best Buy Stores, L.P.*, 256 F.R.D. 418, 423 (S.D.N.Y. 2009) (certifying a Section 349
 23 class where the plaintiffs alleged that Best Buy failed to disclose a policy 'pursuant to which employees
 24 aggressively deny customers' legitimate price match requests'); *Dupler v. Costco Wholesale Corp.*, 249
 25 F.R.D. 29, 37 (E.D.N.Y. 2008) (certifying a Section 349 class in which the core claim was whether
 26 Costco adequately disclosed a renewal policy to its members).

27 ²³ The elements of a Section 349 claim are that: "(1) the defendant's deceptive acts were directed at
 28 consumers, (2) the acts were misleading in a material way, and (3) the plaintiff has been injured as a
 result." *Maurizio v. Goldsmith*, 230 F.3d 518, 521 (2d Cir. 2000).

1 Plaintiffs have already uncovered significant common evidence of Lenovo's omissions
2 concerning VisualDiscovery. This includes the following:

- 3 ■ Lenovo did not adequately disclose that VisualDiscovery had been preinstalled on Class
4 members' computers, even though it was aware that VisualDiscovery, by design, intercepted
5 private web traffic and that its operation negatively impacted impacted CPU usage, battery
6 life, and internet upload and download speeds.
- 7 ■ VisualDiscovery intercepts HTTP(S) traffic using a self-signed root certificate, thus creating
8 a security concern which it failed to disclose.
- 9 ■ Lenovo did not list VisualDiscovery on its website as one of the third-party software
10 applications that would come preloaded on Class members' computers, even though it was its
11 normal practice to do so. VisualDiscovery was hidden in the lowest level of the operating
12 system to make it difficult for consumers and security programs to detect. LEN-0043675;
13 LEN-0021130.
- 14 ■ Lenovo did not disclose how VisualDiscovery worked or all the problems it presented.
15 Lenovo did not tell consumers that VisualDiscovery would continuously intercept, decrypt,
16 and read their electronic data, and that doing so would necessarily expose Class members'
17 private information to security breaches. SF_MDL_000036; LEN-0094734.
- 18 ■ Lenovo did not reveal that VisualDiscovery would impair the functioning of Class members'
19 computers, even though internal testing revealed that the operation of VisualDiscovery
20 negatively impacted CPU usage, battery life, and internet upload and download speeds.

21 Because Lenovo's omissions were made to each and every Class member, certification of Plaintiffs'
22 statutory consumer-protection claims is proper.

23 (c) *The California and New York Negligence Claims Are Amendable to Common Proof.*

24 The law of negligence is substantially identical in both California and New York. To prevail,
25 Plaintiffs will have to establish duty, breach of that duty, proximate cause, and damages. *See e.g.,*
26 *Bomersheim v. Los Angeles Gay & Lesbian Ctr.*, 184 Cal.App.4th 1471, 1482 (2010); *Regalado v. Ecolab*
27 *Inc.*, No. 14 CIV. 6020 (LGS), 2016 WL 94139, at *4 (S.D.N.Y. Jan. 7, 2016). "[E]vidence of custom,
28 usage, or industry practice is relevant in determining whether a particular defendant has met the

appropriate standard of care,” *Doe v. Cutter Biological, Inc., a Div. of Miles Labs., Inc.*, 971 F.2d 375, 383 (9th Cir. 1992), and here there is common proof that it was not industry custom or practice to preinstall malware on computers—or to hide that fact from consumers. Whether such a duty exists is a common issue that may be established by common proof for all class members. Further, proof of a violation is also amenable to classwide proof insofar as it is grounded in the theory that Defendants breached a duty owed to all Class members a duty to ensure that any software installed on their computers did not, consistent with industry standards, impair the performance, privacy, and security of their computers. Classwide proof of a breach includes Lenovo’s own internal testing, which revealed that the operation of VisualDiscovery negatively impacted CPU usage, battery life, and internet upload and download speeds. For example, on the Yoga 3 Pro, VisualDiscovery exceeded what Lenovo considered to be acceptable CPU usage levels and failed Lenovo’s battery life testing as well. LEN-0022631; LEN-0036560. And in testing VisualDiscovery’s impact on internet upload and download speeds, both Lenovo and Superfish discovered a material negative impact caused by running VisualDiscovery. Lenovo’s testing also revealed that when VisualDiscovery was disabled, internet upload speeds increased by 123% and download speeds increased by 20%. EVER121922.

2. *Plaintiffs Have Set Forth Reasonable Methods for Calculating Damages That Correlate to Plaintiffs’ Theories of Defendants’ Wrongdoing.*

The Court may exercise its discretion pursuant to Rule 23(c)(4) of the Federal Rules of Civil Procedure to certify the proposed classes solely for purposes of determining liability. *See Lilly v. Jamba Juice Co.*, 308 F.R.D. 231, 244 (N.D. Cal. 2014). Here, however, the Court should also find that Plaintiffs have sufficiently demonstrated that “damages . . . [can] feasibly and efficiently be calculated once the common liability questions are adjudicated.” *Id.* (quoting *Leyva v. Medline Indus. Inc.*, 716 F.3d 510, 514 (9th Cir.2013)). That is because *all* Class members overpaid for Lenovo laptops pre-installed with VisualDiscovery malware. They did so because they were misled. Consumers did not seek to purchase a computer pre-installed with malware; Superfish did not separately market or sell this malware; VisualDiscovery did not add to users’ experience—a point Lenovo concedes; and the opprobrium generated by the revelation that personal computers were pre-installed with malware *by a computer*

1 *manufacturer* which then hid this critical fact clearly indicates that no one in the class received the benefit
2 of their bargain. In these circumstances, monetary relief is available, and it is classable.

3 Plaintiffs and the Classes will be entitled to recover the fixed statutory damages set by the ECPA,
4 the Wiretap Act, CIPA, and GBL. *See* 18 U.S.C. §§ 2520(b) & 2520(c)(2); Cal. Penal Code § 637.2.;
5 *Guido v. L'Oreal, USA, Inc.*, No. CV 11-1067 CAS JCX, 2013 WL 3353857, at *16 (C.D. Cal. July 1,
6 2013) (plaintiff offered classwide method of computing damages by electing statutory damages under
7 GBL, even without offering expert testimony). The determination of statutory damages per violation
8 “need not be determined on an individual basis, but rather can be determined based upon Defendant’s
9 conduct in the aggregate.” *See Holloway v. Full Spectrum Lending*, No. CV 06-5975 DOC RNBX, 2007
10 WL 7698843, at *5 (C.D. Cal. June 26, 2007); *Murray v. GMAC Mortgage Corp.*, 434 F.3d 948 (7th Cir.
11 2006) (recognizing that class representatives may forgo “the sort of person-specific arguments that render
12 class treatment infeasible” and limit recovery to statutory damages).

13 Plaintiffs and the Classes are also entitled to recover damages or restitution under the CFAA,
14 UCL, CLRA, the California Computer Crime Law, as well as damages for common law negligence and
15 trespass.²⁴ The accompanying declaration of Plaintiffs’ expert, Bruce McFarlane, describes alternative
16 methodologies for calculating both actual damages attributable to the harm caused by Defendants’
17 wrongful conduct and money or property that has been lost by Plaintiffs and the Classes and acquired by
18 Lenovo, *i.e.*, restitution. *See Comcast Corp. v. Behrend*, 133 S. Ct. 1426 (2013). To complement these
19

20 ²⁴ 18 U.S.C. §§ 1030(e)(8), 1030(g) (compensatory damages available for “any impairment to the integrity
21 or availability of data, a program, a system, or information.”); *Pulaski & Middleman, LLC v. Google, Inc.*,
22 802 F.3d 979, 989 (9th Cir. 2015) (“UCL ... restitution is based on what a purchaser would have paid at
23 the time of purchase had the purchaser received all the information.”); *Spann v. J.C. Penney Corp.*, No.
24 12-cv-0215, 2015 WL 1526559, at *9 (C.D. Cal. Mar. 23, 2015) (under the CLRA, a plaintiff is “entitled
25 to recover the difference between the actual value of that with which she parted and the actual value of
26 that which she received”); Cal. Penal Code § 502(e)(1) (“damage or loss by reason of a violation”); *Hand
27 Elecs., Inc. v. Snowline Joint Unified Sch. Dist.*, 21 Cal. App. 4th 862, 870 (1994) (California negligence
28 law; measure of damages for injury to (but not destruction of) personal property may be calculated as the
difference in market value immediately before and immediately after the injury, plus compensation for
loss of use); *Johnson v. Scholz*, 276 A.D. 163, 164 (N.Y. App. Div. 1949) (same under New York law).
Intel Corp. v. Hamidi, 30 Cal. 4th 1342 (2003) (under California law, damages for trespass available for
actual damages caused by the impairment of the property or the loss of its use); *Sch. of Visual Arts v.
Kuprewicz*, 3 Misc. 3d 278, 281 (N.Y. Sup. Ct. 2003) (same under New York law) (citing Rest. (2d) of
Torts, § 218, com. e).

1 methodologies, Plaintiffs also proffer the testimony of Steven Gaskin, who has developed, vetted, and
2 pre-tested a survey study that he is prepared to execute as part of a conjoint analysis to measure the effect
3 VisualDiscovery would have had on the value of these computers had the truth been disclosed.

4 The first model McFarlane describes is a “loss in value” methodology.” McFarlane Decl., ¶¶ 15-
5 80. This model provides a measure of economic loss applicable to restitution as well as damages. Under
6 this model, the economic loss equals the difference between the actual price paid and the market value
7 of the Lenovo laptops *with* VisualDiscovery. *Id.* at ¶ 18. The reduction in the market value of the laptops
8 during the period in which VisualDiscovery operated represents the Class members’ overpayment.

9 In weighing negative and positive values based on the common proof already obtained,
10 McFarlane concludes that Class members experienced a negative value associated with VisualDiscovery
11 because, among other reasons, there was no evidence that Class members independently sought to
12 purchase a computer preloaded with malware, no evidence that Superfish separately marketed and sold
13 it, and Lenovo *admitted* that VisualDiscovery did not add value to its users’ experience and it worked to
14 help Class members remove the software after its installation became public. *Id.* at ¶¶ 31-54. McFarlane
15 also concludes that using a laptop infected with VisualDiscovery was more costly to users than any
16 positive value Class members obtained from other functioning aspects of the laptops. He points to
17 evidence showing that the security and privacy risks posed by VisualDiscovery were so extreme as to
18 prompt the U.S. Department of Homeland Security to issue an alert, and even Lenovo labeled the threat
19 posed by VisualDiscovery as “high.” *Id.* at ¶¶ 55-79. In addition, computer security experts and
20 consumers alike reacted with alarm and disgust at what Lenovo had done by installing VisualDiscovery.
21 *Id.* at ¶ 69.

22 By way of example, McFarlane’s declaration further explains that the net value during the six-
23 month period in which VisualDiscovery was installed on Lenovo laptops may be obtained by comparing
24 negative and positive values. *Id.* at ¶¶ 19-28. To illustrate the methodology, McFarlane assumes a \$600
25 purchase price and three-year useful life. He then calculates the loss in value that putative Class members
26 suffered during the relevant five month period at \$83.00 per computer. *Id.* at Figure 4. This methodology,
27 McFarlane explains, will be supplemented by the results of the conjoint analysis, which, as described
28 below, will provide a value in percentage and dollar amount that customers place on laptops without

1 tailored ad software installed (and therefore no privacy issues or security risks) compared to the value of
2 the laptops with tailored ad software installed (which has privacy issues and security risks).

3 The second model he describes is a “component methodology.” With respect to the privacy
4 violations and security risks VisualDiscovery caused, the component methodology measures any
5 overpayment based on the purchase price Defendants would have had to offer to induce consumers to
6 buy the Lenovo computers equipped with VisualDiscovery, knowing that VisualDiscovery posed
7 significant privacy and security threats. *Id.* at ¶¶ 81-102. Also, under this model, diminished computer
8 resources that putative Class members experienced with respect to the CPU, memory, battery power, and
9 the like, as a result of VisualDiscovery, can be calculated according to what the market would have
10 charged Class members to obtain the computing power they would have enjoyed in the absence of
11 VisualDiscovery. *Id.* at ¶¶ 86-102. This methodology thus looks to the market price of additional
12 increments of a given component—for example, additional gigabytes of memory—to determine the
13 amount of out-of-pocket losses Class members suffered during the time that VisualDiscovery was
14 installed and running on their computers. *Id.* at ¶¶ 95-97.

15 Plaintiffs also have submitted a declaration from Steven P. Gaskin, an expert in marketing science
16 who describes how he would perform an internet-based “conjoint analysis” to determine the loss in laptop
17 value that Class members experienced as a result of the pre-installation of VisualDiscovery. Gaskin Decl.,
18 ¶¶ 1-3. Conjoint analysis is a well-established tool used to ascertain customer preferences, and is the
19 “most widely studied and applied form of quantitative customer preference measurement.” *Id.* at ¶ 9.
20 Similar conjoint analysis has been accepted as classwide proof in other consumer class actions. *E.g.*,
21 *Sanchez-Knutson v. Ford Motor Co.*, 310 F.R.D. ___, 538-39 (S.D. Fl. 2015); *Morales v. Kraft Foods*
22 *Grp., Inc.*, No. 14-cv-04387, 2015 WL 10786035, at *10 (C.D. Cal. June 23, 2015); *In re ConAgra Foods,*
23 *Inc.*, No. ___, 2015 WL 1062756, at *__ (C.D. Cal. Feb. 23, 2015).

24 In his declaration, Gaskin describes how he would construct a methodologically sound survey
25 consisting of a series of product profiles, or “choice sets,” revolving around various laptop specifications,
26 including the laptop’s (1) screen size, (2) hard-drive storage capacity, (3) random-access memory (RAM),
27 (4) heat dissipation, (5) memory, (6) price, and the feature of interest, (7) tailored ad software that presents
28 privacy and security risks, just as VisualDiscovery does. *Id.* at ¶¶ 16-17, 39. Survey respondents—who

would be drawn from a random sample of the general population of people who have purchased a laptop within the last 12 months—would be asked to choose the product profile that they most prefer. *Id.* at ¶ 16. To account for market supply, the price range for the conjoint analysis was chosen based upon exploratory interviews and market pricing research. In this way, Gaskin would be able to reliably isolate the effect of targeted-ad software that poses privacy and security threats (like VisualDiscovery) on consumers’ buying preferences, and determine the reduction in value of a laptop that comes pre-loaded with such software, versus the market value for a laptop without such software. *Id.* at ¶¶ 17, 55-56.

In all, Plaintiffs have demonstrated methodologies by which damages can feasibly and efficiently be calculated after common liability is adjudicated. Notwithstanding that strong showing, adjudication of common issues pertaining to liability would help achieve judicial economy, and that fact alone means this case “warrants adjudication by representation.” *Amchem*, 521 U.S. at 623.²⁵

3. *A Class Action is a Superior Mechanism for Resolving Plaintiffs’ Claims.*

The following four factors are relevant to determining if class treatment is superior to individual suits: “(1) the interests of members of the class in individually controlling the prosecution or defense of separate actions; (2) the extent and nature of any litigation concerning the controversy already commenced by or against members of the class; (3) the desirability or undesirability of concentrating the litigation of the claims in the particular forum; and (4) the difficulties likely to be encountered in the management of a class action.” Fed. R. Civ. P. 23(b)(3)(A)-(D). “Where classwide litigation of common issues will reduce litigation costs and promote greater efficiency, a class action may be superior to other methods of litigation.” *Valentino v. Carter-Wallace, Inc.*, 97 F.3d 1227, 1235 (9th Cir. 1996).

Here, putative Class members do not have a strong interest in bringing their own individual cases because the potential recovery for each Class member is too small. “Cases, such as this, ‘where litigation costs dwarf potential recovery’ are paradigmatic examples of those well-suited for classwide prosecution.” *Mullins*, 2016 WL 1535057, at *8 (quoting *Hanlon v. Chrysler Corp.*, 150 F.3d 1011, 1023

²⁵ Plaintiffs, to be sure, have full confidence in their damages model. But it bears repeating that “the fact that a class may not be satisfied for purposes of seeking damages does not mean that it cannot be certified at all.” *Lilly*, 308 F.R.D. at 244; *accord Petersen*, 312 F.R.D. 565, 584 (C.D. Cal. 2016) (certifying nine single-state subclasses for the purposes of determining liability); *Leyva*, 716 F.3d at 513-14 (holding district court abused its discretion in finding individualized damages issues precluded class certification).

(9th Cir. 1998)). Second, Plaintiffs are not aware of any other pending cases challenging Defendants' VisualDiscovery scheme. This therefore eliminates any "threat of multiplicity" and "risk of inconsistent adjudications." *Bias*, 312 F.R.D. at 543 (quoting *Zinser v. Accufix Research Inst., Inc.*, 253 F.3d 1180 (9th Cir. 2001)). Third, concentrating the litigation in this forum makes sense given that this Court has presided over the case for more than a year, and given the number of California claims asserted. Finally, because Plaintiffs allege that Defendants engaged in uniform conduct toward each Class member, there is no reason to think that the case will present any management difficulties.

Accordingly, a class action is the only realistic vehicle through which Class members may obtain relief and is therefore superior to individual suits.

CONCLUSION

For all the reasons described above, Plaintiffs' respectfully request that the Court grant their motion for class certification.

Dated: July 22, 2016

Respectfully submitted,

PRITZKER LEVINE LLP

/s/ Jonathan K. Levine

Jonathan K. Levine (SBN 220289)
Elizabeth C. Pritzker (SBN 146267)
Shiho Yamamoto (SBN 264741)
180 Grand Avenue, Suite 1390
Oakland, California 94612
Telephone: (415) 692-0772
Facsimile: (415) 366-6110
jkl@pritzkerlevine.com
ecp@pritzkerlevine.com
sy@pritzkerlevine.com

GIRARD GIBBS LLP

/s/ Daniel C. Girard

Daniel C. Girard (SBN 114826)
Elizabeth A. Kramer (SBN 293129)
Andre M. Mura (SBN 298541)

601 California Street, Suite 1400
San Francisco, CA 94104
Telephone: (415) 981-4800

Facsimile: (415) 981-4846
dgc@girardgibbs.com
eak@girardgibbs.com
amm@classlawgroup.com

COTCHETT, PITRE & McCARTHY, LLP

/s/ Matthew K. Edling

Steven N. Williams (SBN 175489)
Matthew K. Edling (SBN 250940)
Alexandra P. Summer (SBN 266485)
San Francisco Airport Office Center
840 Malcolm Road, Suite 200
Burlingame, CA 94010
Telephone: (650) 697-6000
Facsimile: (650) 697-0577
swilliams@cpmlegal.com
medling@cpmlegal.com
asummer@cpmlegal.com

Plaintiffs' Interim Co-lead Counsel